

REMARKS:

Claims 3, 5 to 7, and 9 to 28 are in the application, with claims 1 and 2 having been cancelled. Claims 3, 7, and 22 are the independent claims herein. Reconsideration and further examination are respectfully requested.

Claims 1 and 2

These claims were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,315,580 (Phaal). Claims 1 and 2 have been cancelled, rendering this rejection moot. Accordingly, withdrawal of the rejection is respectfully requested.

Claims 3, 6 to 7, and 9 to 28

These claims were rejected under 35 U.S.C. § 103(a) over Phaal. Applicants respectfully traverse this rejection.

Claim 3: This claim recites a system that includes an input port for receiving network packets, and a sampling element for selecting a fraction of those packets for review. The sampling element includes a feedback element for adaptively altering the fraction. The system also includes a queue of selected packets, a packet-type detector coupled to the queue, and a frequency measurement element coupled to the packet-type detector. The feedback element is responsive to a length of the queue (i.e., a number of packets or amount of data in the queue).

In a previous response, Applicants argued that Phaal failed to disclose or to suggest claim 3's features of a feedback element that is for adaptively altering a fraction of packets for review and of a feedback element that is responsive to a length of a queue of selected packets. The Examiner rejected this argument. Applicants understand the Examiner's reasoning; however, Applicants still do not agree with the assessment of Phaal in the Office Action. Nonetheless, in an effort to advance prosecution, Applicants have decided to withdraw the argument that Phaal fails to disclose or to suggest adaptively altering a fraction of packets for review. Accordingly, this argument is now moot.

However, Applicants maintain the position that Phaal fails to disclose or to suggest a feedback element for adaptively altering a fraction of packets for review that is responsive to a length of a queue of selected packets. By making the feedback element responsive to the queue length, the invention provides a simple, efficient, and effective way to alter the fraction of packets for review without a need for significant additional processing.

The Office Action does not identify any portion of Phaal as explicitly teaching this feature. Applicants submit that the feature also is not at all obvious from Phaal's teachings.

Applicants' position is supported by a fact noted in the Office Action itself. This fact is that Phaal teaches use of a "quite small" FIFO buffer, for example "sufficient to hold only two or three entries," as a queue for packets to be monitored. See Phaal, column 5, lines 66 to 68. Clearly, it would be unavailing to have the fraction of packets for review determined by how many packets are in such a small queue. The possible length of (i.e., number of entries held by) such a queue simply does not provide sufficient information for effective determination of what

fraction of packets to sample. It is, of course, possible to use a small queue with Applicants' invention, even a queue that can hold only two or three entries; however, the effectiveness of the claimed technique would be severely hampered by use of a queue that small.

When a reference fails to explicitly teach a claimed feature of an invention and also teaches use of elements that would be poorly suited for that feature, that reference clearly is not suggesting the claimed feature. Such is the case with Phaal: This reference does not explicitly teach using the length of the queue in the claimed fashion, and the small queue taught by Phaal would be poorly suited for use in the claimed manner. Thus, Phaal is not seen to disclose or to suggest claim 3's feature of a feedback element for adaptively altering a fraction of packets for review that is responsive to a length of a queue of selected packets.

In view of the foregoing, claim 3 is believed to be allowable over Phaal, and such action is respectfully requested.

Claim 7: This claim recites a method including steps for sampling a set of packets at a network interface of a switch. The steps for sampling including steps for adaptively altering a fraction of the packets for selection. The steps for adaptively altering a fraction of the packets for selection include steps for maintaining a queue of selected packets, and altering the fraction in response to a length of the queue.

Phaal is not seen to disclose or to suggest the foregoing features of claim 7, at least with respect to adaptively altering a fraction of packets for selection in response to a length of a queue of selected packets. Accordingly, claim 7 is believed to be allowable over Phaal, and such action is respectfully requested.

Claim 22: This claim recites a system including means for collecting aggregate information about network traffic, and means for maintaining processor load relatively constant for a processor controlling the means for collecting despite substantial variation in network traffic. The means for collecting and the means for maintaining include an input port for receiving network packets, a sampling element for selecting a fraction of those packets for review, the sampling element including a feedback element for adaptively altering the fraction, a queue of selected packets, a packet-type detector coupled to the queue, and a frequency measurement element coupled to the packet-type detector. In claim 22, the feedback element is responsive to a length of the queue.

Phaal is not seen to disclose or to suggest the foregoing features of claim 22, at least with respect to a feedback element for adaptively altering a fraction of packets for review that is responsive to a length of a queue of selected packets. Accordingly, claim 22 is believed to be allowable over Phaal, and such action is respectfully requested.

Remaining Claims: The remaining claims depend directly or indirectly from the claims discussed above and therefore are believed to be allowable over Phaal for at least the foregoing reasons.

Closing

In view of the foregoing amendments and remarks, the entire application is believed to be in condition for allowance, and such action is respectfully requested at the Examiner's earliest convenience.

Applicants' undersigned attorney can be reached at (614) 486-3585. All correspondence should continue to be directed to the address indicated below.

Respectfully submitted,

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Changes to Claims

Pursuant to 37 C.F.R. § 1.121(c)(ii), changes to any claims effected by the accompanying paper are indicated below.

Claims 1 and 2 have been cancelled.